

### REMARKS

#### **Status of the claims**

Claims 1-42 are pending in the application. Claims 5-8, 17-27, 30-42 have been withdrawn in response to the present restriction requirement; claims 1-4, 9-14, 16, and 28-29 have been amended; and claim 43 has been added by the present Response.

#### **Support for the claim amendments**

Claims 1-4, 9-11, 14, 16, 28, and 29 are amended to remove non-elected groups. Support for new claim 43 drawn to a method of producing a polypeptide of SEQ ID NO:4 can be found at least at page 24, line 29, to page 25, line 10; and page 63, lines 5-22. Accordingly, no new matter has been introduced by the present amendments.

#### **Sequence compliance**

Applicants respectfully submit that on January 22, 2001, a Response to Notice to Comply with Requirements for Patent Applications Containing Nucleotide and/or Amino Acid Sequences was filed with the U.S. Patent and Trademark Office to address the issues raised in the present Office Action.

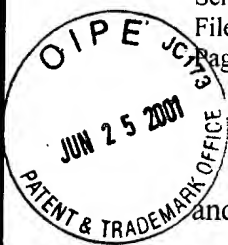
### CONCLUSION

Upon entry of the present amendment, claims 1-4, 9-16, and 28-29 are pending. Applicants request that the Examiner consider the application and claims in light of the foregoing amendments and respectfully submits that the claims are in condition for allowance. If, in the Examiner's opinion, a telephonic interview would expedite the favorable prosecution of the present application, the undersigned attorney would welcome the opportunity to discuss any issues and to work with the Examiner toward placing the application in condition for allowance.

Attached is a marked-up version of the changes being made by the current amendment.

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The Response was initially due January 22, 2001. Applicants have included a petition and the fee for a five-month extension of time, up to and including June 22, 2001. Accordingly, this Response is timely filed. Applicants believe that no other fees are necessitated by the present Response. However, in the event any fees are due, the Commissioner is hereby authorized to charge any such fees to Deposit Account No. 06-1050.

Respectfully submitted,

Date: June 22, 2001

  
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**Version with markings to show changes made**

In the claims:

Claims 1-4, 9-14, 16, and 28-29 have been amended as follows:

1. (Amended) An isolated or recombinant nucleic acid comprising:

[a nucleic acid sequence having at least 75% sequence identity to SEQ ID NO:1 or a nucleic acid encoding a polypeptide, wherein the polypeptide has a sequence as set forth in SEQ ID NO:2; or]

a nucleic acid sequence having at least 75% sequence identity to SEQ ID NO:3 or a nucleic acid encoding a polypeptide, wherein the polypeptide has a sequence as set forth in SEQ ID NO:4[; or].

[a nucleic acid sequence having at least 85% sequence identity to SEQ ID NO:5 or a nucleic acid encoding a polypeptide, wherein the polypeptide has a sequence as set forth in SEQ ID NO:6; or

a nucleic acid sequence having at least 75% sequence identity to SEQ ID NO:7 or a nucleic acid encoding a polypeptide, wherein the polypeptide has a sequence as set forth in SEQ ID NO:8.]

2. (Amended) The nucleic acid of claim 1,

[wherein the sequence identity to SEQ ID NO:1 is at least 85%;]

wherein the sequence identity to SEQ ID NO:3 is at least 85%.[;]

[wherein the sequence identity to SEQ ID NO:5 is at least 90%;

wherein the sequence identity to SEQ ID NO:7 is at least 85%.]

3. (Amended) The nucleic acid of claim 2,

[wherein the sequence identity to SEQ ID NO:1 is 95%;]

wherein the sequence identity to SEQ ID NO:3 is 95%.[;]

[wherein the sequence identity to SEQ ID NO:5 is 95%;  
wherein the sequence identity to SEQ ID NO:7 is 95%.]

4. (Amended) The nucleic acid of claim 3, wherein the nucleic acid comprises a sequence as set forth in [SEQ ID NO:1; SEQ ID NO:3; SEQ ID NO:5; or SEQ ID NO:7.]

9. (Amended) An isolated or recombinant nucleic acid which specifically hybridizes to a nucleic acid comprising a sequence as set forth in [SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15 or SEQ ID NO:16] under stringent conditions, wherein the stringent conditions include a wash step comprising a wash in 0.2X SSC at a temperature of about 65°C for about 15 minutes.

10. (Amended) The nucleic acid of claim 1[, claim 5,] or claim 9, wherein the nucleic acid is between about 15 and about 200 residues in length; is between about 25 and about 100 residues in length; or is between about 35 and about 75 residues in length.

11. (Amended) An expression vector comprising at least one nucleic acid operably linked to a promoter, wherein the nucleic acid comprises a sequence as set forth in claim 1[, claim 5] or claim 9.

12. (Amended) The expression vector of claim 11, wherein the nucleic acid is operably linked to the promoter in a [the] sense orientation.

13. (Amended) The expression vector of claim 11, wherein the nucleic acid is operably linked to the promoter in an [the] antisense orientation.

14. (Amended) A transformed cell comprising the nucleic acid of claim 1[, claim 5] or claim 9.

16. (Amended) A polymerase chain reaction (PCR) primer pair that can amplify a nucleic acid sequence as set forth in claim 1[, claim 5,] or claim 9, or a subsequence thereof, under *in situ* or *in vitro* conditions.

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28. (Amended) A kit for detecting the presence of nucleic acid sequences associated with GCA in a sample comprising a nucleic acid as set forth in claim 1[, claim 5] or claim 9, wherein the nucleic acid of the sample detectably hybridizes to a nucleic acid as set forth in claim 1[, claim 5] or claim 9 under *in situ* or *in vitro* conditions.

29. (Amended) A kit for detecting the presence of nucleic acid sequences associated with GCA in a sample comprising an amplification primer pair that can amplify a nucleic acid in the sample having a sequence as set forth in claim 1[, claim 5] or claim 9 under *in situ* or *in vitro* conditions.